

**Amendment and Response**

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Applicant: Stefan Pulst

Serial No.: 08/981,998

Title: NUCLEIC ACID ENCODING SPINOCEREBELLAR ATAXIA-2 AND PRODUCTS RELATED THERETO

stringency conditions to the SCA2 coding portion of nucleotides 1 - 516 of SEQ ID NO:1 or nucleotides 163-4098 of SEQ ID NO:2.

6. (Twice Amended) DNA according to claim 2, wherein said DNA has at least 90% homology to the SCA2 coding portion set forth in SEQ ID NO:2 wherein the DNA encodes a polypeptide that binds to an antibody, the antibody produced using an amino acid sequence selected from the group consisting of SEQ ID NO:3 or SEQ ID NO:5.

61. (Twice Amended) An isolated nucleic acid set forth at SEQ ID NO:4 encoding an SCA2 polypeptide.

62. (Amended) An isolated nucleic acid, wherein the nucleic acid hybridizes under high stringency conditions to nucleotides 1 - 516 of SEQ ID NO:1, nucleotides 163-4098 of SEQ ID NO:2, or SEQ ID NO:19, wherein the isolated nucleic acid encodes an SCA2 polypeptide.

63. (Amended) An isolated nucleic acid, wherein the nucleic acid hybridizes under high stringency conditions to SEQ ID NO:19, wherein the isolated nucleic acid encodes a fragment of an SCA2 polypeptide.

65. (New) Isolated mouse nucleic acid encoding an SCA2 polypeptide.

66. (New) Isolated nucleic acid according to claim 65, wherein said nucleic acid comprises DNA.

67. (New) DNA according to claim 6, wherein said DNA is cDNA.

68. (New) DNA according to claim 66, wherein said DNA hybridizes under high stringency conditions to the SCA2 coding portion of SEQ ID NO:19.

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69. (New) DNA according to claim 66, wherein said DNA has at least 90% homology to the SCA2 coding portion set forth in SEQ ID NO:4, and wherein the DNA encodes a polypeptide that binds to an antibody, the antibody produced using an amino acid sequence selected from the group consisting of SEQ ID NO:3 or SEQ ID NO:5.

70. (New) A vector comprising DNA according to claim 66.

71. (New) An isolated nucleic acid comprising nucleotides 163-4098 of SEQ ID NO:2.

72. (New) An isolated nucleic acid encoding the amino acid sequence set forth at SEQ ID NO:3.

73. (New) An isolated nucleic acid comprising nucleotides 50-3454 of SEQ ID NO:4.

74. (New) An isolated nucleic acid set forth at SEQ ID NO:19.

75. (New) An isolated nucleic acid comprising the nucleic acid sequence set forth at SEQ ID NO:19.